

CLAIMS

What is claimed is:

1. An apparatus selectively attachable to a vehicle, for transporting a device and positioning the device in an orientation that permits access to the vehicle, the apparatus comprising:

a support arm defining a support arm longitudinal axis, wherein the support arm has a hitch collar hole;

a primary swing arm defining a primary swing arm longitudinal axis; and

a primary hinge assembly coupled to the support arm and the primary swing arm.

2. The apparatus of claim 1:

wherein the support arm has a first set screw hole; and

further comprising a first set screw attached to the first set screw hole.

3. The apparatus of claim 1, further comprising a hitch collar inserted into the hitch collar hole in the support arm and attached to the support arm.

4. The apparatus of claim 3:

wherein the support arm has a first set screw hole, and

further comprising:

a first set screw attached to the first set screw hole; and

a collar insertion member inserted into the hitch collar, and

wherein the first set screw is in contact with the collar insertion member to secure the collar insertion member to the hitch collar.

5. The apparatus of claim 4, wherein the collar insertion member includes a hitch ball.

6. The apparatus of claim 4:

wherein the hitch collar has a second set screw hole;

and further comprising:

a second set screw attached to the second set screw hole; and

wherein the first set screw and the second set screw are in contact with the collar insertion member to secure the collar insertion member to the hitch collar.

7. The apparatus of claim 1:

wherein the support arm has a support arm primary angle securing hole, and wherein the primary hinge assembly has a plurality of locking holes for selective alignment with the support arm angle securing hole; and

further comprising a primary angle locking bar inserted into one of the plurality of locking holes in the primary hinge assembly and into the primary angle securing hole in the support arm, to lock the longitudinal axis of the primary swing arm at an angle in relation to the longitudinal axis of the support arm selected from a plurality of angles determined by the locations of the plurality of locking holes in the primary hinge assembly and by the location of the primary angle securing hole in the support arm.

8. The apparatus of claim 7, further comprising a hitch collar inserted into the hitch collar hole in the support arm and attached to the support arm.

9. The apparatus of claim 8, further comprising a collar insertion member inserted into the hitch collar, wherein the collar insertion member has a side having a first hole and a second hole.

10. The apparatus of claim 1, wherein the hitch collar hole defines a hitch collar hole longitudinal axis, and wherein the hitch collar hole longitudinal axis is substantially perpendicular to the support arm longitudinal axis.

11. The apparatus of claim 1, wherein the hitch collar hole is located proximate a first end of the support arm, and wherein the hitch collar hole is rectangular.

12. The apparatus of claim 1, wherein a length of the support arm parallel to the support arm longitudinal axis is greater than a length of the primary swing arm parallel to the primary swing arm longitudinal axis.

13. The apparatus of claim 1, further comprising:
a ground support post attached to the primary swing arm; and

a base attached to the ground support post.

14. The apparatus of claim 1, further comprising:

a ground support post hinge attached to the primary swing arm; and
a ground support post attached to the ground support post hinge.

15. The apparatus of claim 14, further comprising:

a base attached to an end of the ground support post; and
a ground support post retaining clip attached to the primary swing arm.

16. The apparatus of claim 1, further comprising a pedestal attached to the primary swing arm.

17. The apparatus of claim 1, wherein the support arm comprises a support arm top having a primary support arm top primary hinge hole, and a support arm bottom having a primary support arm bottom primary hinge hole aligned with the support arm top primary hinge hole.

18. The apparatus of claim 17, wherein the primary hinge assembly comprises:

a top hinge plate having a central hole for alignment with the support arm top primary hinge hole;

a bottom hinge plate having a central hole for alignment with the support arm bottom primary hinge hole; and

an attachment wall connected to the top hinge plate and the bottom hinge plate, and wherein the attachment wall is attached to the primary swing arm;

and wherein the apparatus further comprises a primary hinge bar inserted through the central hole in the top hinge plate in the primary hinge assembly, the support arm top primary hinge hole, the support arm bottom primary hinge hole, and the central hole in the bottom hinge plate of the primary hinge assembly, to attach the primary swing arm to the support arm, and to permit the swing arm to rotate in relation to the support arm.

19. The apparatus of claim 1, further comprising:

a pedestal having a base, wherein the base of the pedestal is attached to the primary swing arm; and

a column, wherein the column is at least partially inserted into the pedestal.

20. The apparatus of claim 19, wherein the device is coupled to the column.

5 21. The apparatus of claim 19, wherein the device is a cooking device, and further comprising a cooking device coupled to the column.

22. The apparatus of claim 1, wherein the device is a cooking device.

10 23. The apparatus of claim 1, wherein the device is a bicycle.

24. The apparatus of claim 1, wherein the device is a ski.

25. The apparatus of claim 1, wherein the device is luggage.

15 26. The apparatus of claim 1, wherein the device is a wheelchair.

27. The apparatus of claim 1, wherein the device is a container.

20 28. The apparatus of claim 1, wherein the device is a tank.

29. An apparatus selectively attachable to a vehicle, for transporting a device and positioning the device in an orientation that permits access to the vehicle, the apparatus comprising:

25 a support arm defining a support arm longitudinal axis, wherein the support arm has a hitch collar hole;

a hitch collar inserted into the hitch collar hole and attached to the support arm, wherein the hitch collar has a first set screw hole;

a first set screw attached to the first set screw hole;

30 a primary swing arm defining a primary swing arm longitudinal axis; and

a primary hinge assembly coupled to the support arm and the primary swing arm.

30. The apparatus of claim 29, wherein the support arm has a second set screw hole;
and further comprising a second set screw attached to the second set screw hole.

31. The apparatus of claim 29, further comprising:
a ground support post hinge attached to the primary swing arm; and
a ground support post attached to the ground support post hinge.

32. The apparatus of claim 29:
wherein the support arm has a support arm primary angle securing hole, and
wherein the primary hinge assembly has a plurality of locking holes for selective alignment with the support arm angle securing hole; and
further comprising a primary angle locking bar inserted into one of the plurality of locking holes in the primary hinge assembly and into the primary angle securing hole in the support arm, to lock the longitudinal axis of the primary swing arm at an angle in relation to the longitudinal axis of the support arm selected from a plurality of angles determined by the locations of the plurality of locking holes in the primary hinge assembly and by the location of the primary angle securing hole in the support arm.

33. A swingable apparatus selectively attachable to a vehicle, the apparatus comprising:

a support arm defining a support arm longitudinal axis, wherein the support arm has a hitch collar hole and a support arm primary angle securing hole;
a primary swing arm defining a primary swing arm longitudinal axis;
a primary hinge assembly coupled to the support arm and the primary swing arm, wherein the primary hinge assembly has a plurality of locking holes for selective alignment with the support arm angle securing hole; and

a primary angle locking bar inserted into one of the plurality of locking holes in the primary hinge assembly and into the primary angle securing hole in the support arm, to lock the longitudinal axis of the primary swing arm at an angle in relation to the longitudinal axis of the support arm selected from a plurality of angles determined by the locations of the plurality of locking holes in the primary hinge assembly and by the location of the primary angle securing hole in the support arm.

34. The apparatus of claim 33, further comprising:
a ground support post hinge attached to the primary swing arm; and
a ground support post attached to the ground support post hinge.

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35. The apparatus of claim 33, further comprising a hitch collar inserted into the
hitch collar hole in the support arm and attached to the support arm.

36. The apparatus of claim 33:

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wherein the support arm has a first set screw hole; and
further comprising a first set screw attached to the first set screw hole.

37. An apparatus selectively attachable to a vehicle, for transporting a cooking
device and positioning the cooking device in an orientation for cooking that permits
access to the vehicle, the apparatus comprising:

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a hitch insertion member having a base;

a support arm defining a support arm longitudinal axis, wherein the support
arm has a support arm primary angle securing hole, and wherein the support arm is
attached to the base of the hitch insertion member;

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a primary swing arm defining a primary swing arm longitudinal axis;

a primary hinge assembly coupled to the support arm and the primary swing
arm, wherein the primary hinge assembly has a plurality of locking holes for selective
alignment with the support arm angle securing hole;

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a primary angle locking bar inserted into one of the plurality of locking holes in
the primary hinge assembly and into the primary angle securing hole in the support
arm, to lock the longitudinal axis of the primary swing arm at an angle in relation to
the longitudinal axis of the support arm selected from a plurality of angles
determined by the locations of the plurality of locking holes in the primary hinge
assembly and by the location of the primary angle securing hole in the support arm;

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a ground support post attached to the primary swing arm; and
a base attached to the ground support post.

38. The apparatus of claim 37, further comprising a pedestal having a base,
wherein the base of the pedestal is attached to the primary swing arm.

39. The apparatus of claim 38, further comprising a column, wherein the column is at least partially inserted into the pedestal.

5 40. An apparatus selectively attachable to a vehicle, for transporting a cooking device and positioning the cooking device in an orientation for cooking that permits access to the vehicle, the apparatus comprising:

a hitch insertion member having a base;

a support arm having a support arm top and a support arm bottom, and

10 wherein the support arm defines a support arm longitudinal axis, and wherein the support arm top has a support arm top primary hinge hole and the support arm bottom has a support arm bottom primary hinge hole aligned with the support arm top primary hinge hole, and wherein the support arm is attached to the base of the hitch insertion member;

15 a primary swing arm defining a primary swing arm longitudinal axis;

a primary hinge assembly comprising:

a top hinge plate having a central hole for alignment with the support arm top primary hinge hole;

20 a bottom hinge plate having a central hole for alignment with the support arm bottom primary hinge hole; and

an attachment wall connected to the top hinge plate and the bottom hinge plate, the attachment wall being attached to the primary swing arm; and

25 a primary hinge bar inserted through the central hole in the top hinge plate in the primary hinge assembly, the support arm top primary hinge hole, the support arm bottom primary hinge hole, and the central hole in the bottom hinge plate of the primary hinge assembly, to attach the primary swing arm to the support arm, and to permit the swing arm to rotate in relation to the support arm.

30 41. The apparatus of claim 40, further comprising:

a ground support post hinge attached to the primary swing arm; and

a ground support post attached to the ground support post hinge.

42. An apparatus selectively attachable to a vehicle, for transporting a cooking device and positioning the cooking device in an orientation for cooking that permits access to the vehicle, the apparatus comprising:

a hitch insertion member having a base;

a support arm defining a support arm longitudinal axis, wherein the support arm is attached to the base of the hitch insertion member;

a primary swing arm defining a primary swing arm longitudinal axis;

a primary hinge assembly coupled to the support arm and the primary swing arm;

a pedestal having a base, wherein the base of the pedestal is attached to the primary swing arm; and

a column, wherein the column is at least partially inserted into the pedestal.

43. An apparatus selectively attachable to a vehicle, the apparatus comprising:

a support arm having a support arm longitudinal axis;

means for selectively attaching the support arm to the vehicle;

means for positioning the support arm at a desired distance from the vehicle;

a primary swing arm having a primary swing arm longitudinal axis;

means for swingably attaching the primary swing arm to the support arm; and

means for securing the primary swing arm with the longitudinal axis of the primary swing arm at an angle selected from a plurality of angles, in relation to the longitudinal axis of the support arm.

44. A method for attaching an apparatus to a vehicle, the method comprising:

inserting a collar insertion member into a hitch collar;

inserting the collar insertion member into a trailer hitch; and

securing the collar insertion member to the trailer hitch.

45. The method of claim 44 further comprising: moving the hitch collar in a direction substantially parallel to a longitudinal axis of the collar insertion member; and, securing the hitch collar to the collar insertion member.

46. The method of claim 44 further comprising locking a swing arm longitudinal axis at a desired angle in relation to a support arm longitudinal axis.

47. The method of claim 44 further comprising moving an end of a ground support post to a desired position.